

GRADING NOTES

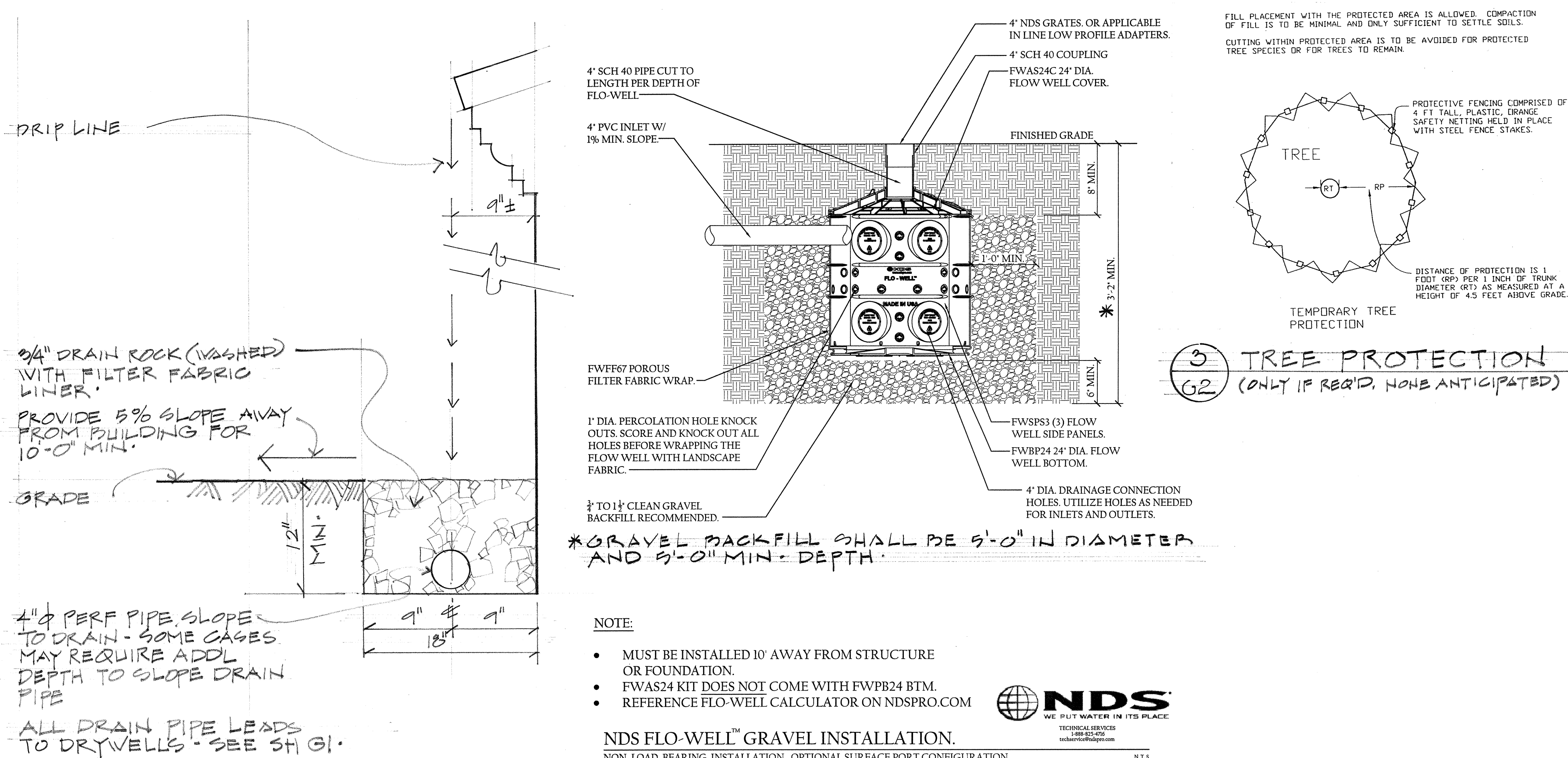
1. A copy of all compaction tests and final grading report shall be submitted to the County prior to scheduling any inspections. This shall be prepared by the Geotechnical Engineer.
2. All erosion control measures shall be in place at the end of each working day, between October 15<sup>th</sup> and April 15<sup>th</sup>. See Erosion Control Plan Notes.
3. All grading shall conform with the County of Monterey Grading Ordinance #2535, and Erosion Control Ordinance #2806.
4. Pad elevations shall be certified to 0.1 feet, prior to digging any footings or scheduling any inspections. Certification shall be by a licensed land surveyor.
5. Any retaining walls ( not attached to the residence ) require a separate Building Permit. None Anticipated.
6. Statement of Intentions: The specific intention of the grading is to accommodate the placement of the residential structure, detached garage and the driveway. The objective is not to intrude on the natural terrain wherever possible.
7. It is estimated that the construction will be about 10 months duration. Estimated start date is April 15, 2013. Estimated completion date is February 15, 2013.
8. Driveway Specifications: Driveway to be 2 inch asphaltic concrete with 4" compacted class 2 base rock, over 6" compacted to 95% native subgrade. Where any fill is required under any part of the driveway it shall be compacted class 2 base rock. The subgrade shall be compacted to 95% of standard AASHTO maximum density.
9. Recommendations of Geotechnical Soils-Foundation & Geoseismic Report with Geohazard Evaluation prepared by Grice Engineering, Inc. dated June 2012 are hereby incorporated into these Grading Plans. **GRICE ENGINEERING, INC. 561-A BRUNNEN, SALINAS CA 94619**  
PHONE: 831-422-9619
10. FILL PLACEMENT AND COMPACTION  
a. All fill soil should be placed in uniform lifts not exceeding eight inches (8") in loose thickness, and six inches (6") in compacted thickness, moisture conditioned and compacted to a minimum relative compactive effort. The minimum relative compactive effort of the native soil should be 90%. All baserock and the upper eight inches (8") of subgrade under paved areas should be compacted to a minimum of 95% relative compactive effort. Where slab-on-grade floors are to be used, the upper six-inches of subgrade should be compacted to minimum relative compaction of 90%. It is important that all native soil be moisture conditioned such that the moisture contact is within two percent of optimum moisture content at the time of compaction.  
b. The relative compaction will be based on the maximum dry density obtained from a laboratory compaction curve run in accordance with ASTM Procedure #D1557-78. This test will also establish the optimum moisture content of the material.
11. FILL MATERIAL  
The on-site soil may be used as compacted fill; however soil to be used as fill which must be imported should meet the following requirements:  
a. Free of organics, debris, and other deleterious materials.  
b. Granular in nature, well graded, and contain sufficient binder to allow utility trenches to stand open.  
c. Free of rocks and cobbles in excess of two inches (2") in size.  
d. Have a Plasticity Index between 4 and 12.  
e. Have a minimum Sand Equivalent of 20.  
f. Have a minimum resistance "R" value of 30.  
g. Have an expansivity not greater than medium.
12. CUT AND FILL SLOPES  
a. All new cut and fill slopes (if needed) should not exceed a maximum gradient of 2:1 (horizontal to vertical). Requirements for benching and keyways will be determined at the time of construction. Note that where possible maximum design gradient is 4:1 (horizontal to vertical).  
UTILITY TRENCHES  
b. Trenches that are parallel to the sides of buildings, on level ground, should be placed so that they do not extend below an imaginary line sloping down and away at 2:1 (horizontal to vertical) from the bottom outside edge of all spread footings.  
c. Trench backfill materials should be selected based on the type and location of each trench. Trenches in sensitive locations should typically be back filled with materials that have low permeable. Trenches in other areas may be filled with granular materials. All backfill material should be uniformly compacted by mechanical means to the relative compaction as required by local building codes, but not less than 95% under paved areas and 90% elsewhere. The relative compaction will be based on the maximum dry density obtained from a laboratory compaction curve run in accordance with ASTM Procedure #D1557-78. This test will also establish the optimum moisture content of the material.  
d. A three-foot (3') long concrete plug should be placed in each trench where it passes under the exterior foundations. Care should be taken not to damage utility lines.  
e. Trenches should be capped with 1.5 +/- feet of relatively impermeable soil.  
f. Trenches deeper than five feet (5') must be shored as required by the local agency, the State of California Division of Industrial Safety Construction Safety Orders, and Federal OSHA requirements.
13. Cut slopes shall be no steeper than two horizontal to one vertical.
14. Actual grading shall begin within 30 days of vegetation removal or the area shall be planted to control erosion.
15. Fill slopes shall not be constructed on natural slopes steeper than two to one, unless a civil engineer or geologist devises a method of placement that will assure the fill will remain in place.
16. Fill slopes shall toe out no closer than 12 feet horizontally to the top of existing or planned cut slopes.
17. The ground surface shall be prepared to receive fill by the removal of topsoil and other unsuitable materials as determined by the soil engineer and, where the slopes are five to one or steeper, by keying into sound bedrock or other competent material.
18. The ground surface shall be prepared to receive fill by removing vegetation, noncomplying fill, topsoil and other unsuitable materials, scarifying to provide a bond with the new fill, and where slopes are steeper than five to one, and the height is greater than 5 feet, by benching into sound bedrock or other competent material as determined by the geotechnical engineer.
19. The bench under the toe of a fill on a slope steeper than five to one shall be at least twelve feet wide.
20. The area beyond the toe of a fill shall be sloped for sheet overflow or a paved drain shall be provided.
21. Where fill is to be placed over a cut, the bench under the toe of fill shall be at least ten feet wide but the cut must be made before placing fill and approved by the geotechnical engineer and engineering geologist as suitable foundation for fill. None anticipated.
22. Fill slopes shall not be constructed on natural slopes steeper than 2:1.
23. No organic material shall be permitted in fills except as topsoil used for surface plant growth only and which does not exceed 4 inches in depth.
24. Rock over twelve inches in its maximum dimension may not be used in a fill.
25. No compacted fills shall be made which creates an exposed surface steeper in slope than 2 horizontal to 1 vertical.
26. All fills shall be compacted to a minimum of 90% of maximum density as determined by the 2010 UBC, Section 6003.
27. Grading Calculations ( Note that it is the responsibility of the Grading Contractor to prepare his own grading calculations for bidding and contract proposals.)  
Residence:  
A) Bid Pad 436.00' 0.07(ave depth) x 6833 sf = 1.0'(ave depth) x 150 sf = 150 cu ft / 27 = 6 cu yds  
478 cu ft / 27 = 18 cu yds  
0  
B) North Side  
C) East Side 1.75(ave depth) x 118' x 16'(approx width) 3304 cu ft / 27 = 123 cu yds  
D) South Side 1.5'(ave depth) 100 sf (approx area) 150 cu ft / 27 = 6 cu yds  
E) West Side 0  
Detached Garage:  
F) North Side 0.25(ave depth) x 24' x 12'=288 sf 72 cu ft / 27 = 3 cu yds  
G) Bid Pad 420.39' 2.61(ave depth) x 960 sq ft. 2506 cu ft / 27 = 93 cu yds  
H) East Side 0.1(ave depth) x 400 sq.ft. 40 cu ft / 27 = 2 cu yds  
I) South Side 0.15(ave depth) x24' x 12'=288 sf 43 cu ft / 27 = 2 cu yds  
J) West Side 0.5(ave depth) x 15' x 40'= 600 sf 300 cu ft /27 = 11 cu yds.  
Septic System:  
K) Drainfields 11.5' x 1.5' x 160' = 2760 cu ft /27 = 102 cu yds  
L) Septic Tank 400 cu ft / 27 = 15 cu yds  
Restore Demolished Building Area:  
M) Beyond South 0 1.9(ave depth) 100' x 40' approx 7,587 cu ft / 27 = 281 cu yds  
375 cu yds Fill  
TOTALS : 375 cu yds Cut

28. All cut and or fill slopes exposed during the course of construction shall be covered, seeded with native grasses or otherwise treated to control erosion subject to the approval of the Director of Planning & Building Inspection.
29. Native trees which are located close to the construction site shall be protected from inadvertent damage from construction equipment by: (Close is any tree within 10 feet of an "extent of grading or site disturbance" area as shown on the Grading Plan.)  
a. Wrapping trunks with protective materials;  
b. Fencing around the area within drip lines;  
c. Avoiding fill of any type against the base of the trunks, and  
d. Avoiding an increase in soil depth at the feeding zone or drip line of the retained trees. Said protection shall be demonstrated through either photographic evidence or by a site visit with Planning and Building Inspection staff prior to issuance of building permits.
30. Provide a minimum of a 5% Downslope for a minimum of 10 feet away from the foundations, Typical.
31. See Grading Plan for 4" diameter perforated pipe to be located below top of footing in Class 1 Type A drain rock, 12 inches wide, extending up to within 8 inches of finished grade, and covered with filter fabric above rock, typical. All drain lines connect to dry wells, see plan., with 4" diameter solid abs pipe.
32. Where roof downslope discharges rainwater Note 33. Shall be supplemented with a gravel Moe Strip. See Detail 1/G2 Moe Strip, or "Smith" Model 9818 Trench drain of paved areas. Locate at center line of Drip line, Approximately 8 inches on center away from face of finish section. See Plan.  
Where Roof Valleys creates a concentrated rainwater discharge, provide an 18" section of 4" ogee gutter with a 3 inch diameter downspout, which shall lead into the 4" perforated drain pipe in the moe strip. See Grading & Erosion Control Plan for locations.
33. Drywells: Shall be sized to accommodate a 2 inch rainfall in a 24 hour period. Maximum roof area served is 1,500 sq.ft.per drywell, produces 250 cu ft of rain water. A conservative percolation rate of 60 minutes per inch is used for this sizing. In 4 hours a 5'-0" diameter drywell 5 feet deep could percolate 4hrs x 19.63 sf bottom x 4 hrs x 78.54 side= 392 cu ft of water > 250 cu ft. Provide a 2" diameter overflow pipe from the last drywell in any series. All drywells shall be located a minimum of ten feet from any uphill foundation and 25 feet from any downhill foundation.
34. Building pads shall have a drainage gradient of 2% toward approved drainage facilities. Grades around perimeter shall slope downward 1 inch minimum to a point 4 feet from structure typical.
35. Dust from grading shall be controlled.

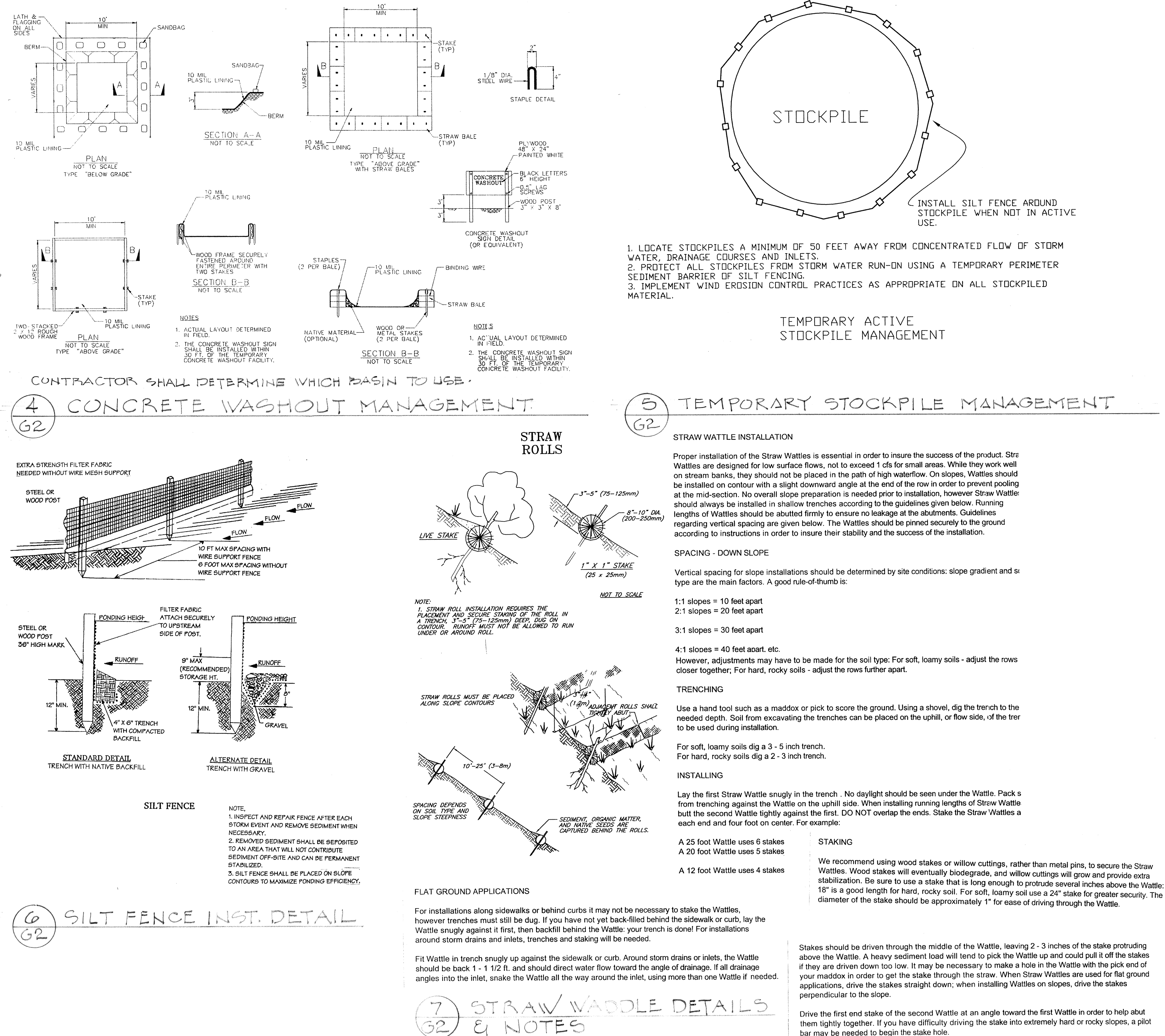
26. DISTURBED AREA = 41,190 SQ.FT. ±  
27. PROVIDE 3'-0" HIGH BARRIER MADE WITH "ORANGE" NETTING SUCH THAT IT DEFINES THE BUILDING CONSTRUCTION ENVELOPE, AND PROVIDES TREE PROTECTION SINCE NO TREES FALL WITHIN THIS ENVELOPE.

EROSION CONTROL PLAN

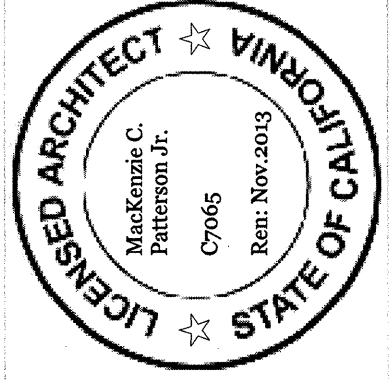
1. All Erosion Control measures shall conform with Monterey County Erosion Control Ordinance #2806.
2. The Owners shall cooperate with the Monterey County grading inspector in compliance with winter operations to prevent erosion and siltation.
3. Roof drainage shall be collected in gravel strips. These strips shall be located along all downslope roof eaves. See Gravel Strip Detail. Where roof drainage falls on a paved area, a continuous trench drain shall be provided. The roof and driveway runoff shall be collected in a catch basin and directed into a water dispersion outlet or drywell. No flows shall be allowed to be directed over an unprotected slope.
4. Erosion control facilities & measures shall be installed, maintained, and operated prior to the start of work, between October 15 and April 15, and shall continue in effect until installation of the permanent landscaping.
5. All disturbed areas excluding the building foundation and driveway shall be seeded or landscaped as soon as possible after grading.
6. All paved areas shall be kept clear of earth materials and debris. The site shall be maintained so as to prevent sediment laden runoff from entering the natural drainage courses or adjacent properties.
7. All erosion control facilities shall be inspected and repaired as required on a daily basis during the rainy season by the contractor. The contractor shall inspect the facilities and make repairs thereto prior to any anticipated storms and shall periodically inspect the site at reasonable intervals during storms of extended duration. Repairs to damaged facilities shall be performed immediately.
8. The contractor shall remove any accumulation of silt or debris after each storm, and Any damage to re-vegetated slopes shall be repaired as soon as practical.
9. The contractor shall be solely responsible for installation and maintenance of erosion control facilities and shall conduct periodic inspection of the project site during storms of prolonged and/or heavy intensity to assure that the facilities function in the manner described herein.
10. Water utilized in conjunction with stabilization materials shall be of such quality to promote germination and stimulate growth of plants. It shall be free of pollutants and weed seed.
11. The rainy season is October 15 through April 15. No grading shall occur during this period unless otherwise authorized by the Director of Planning and Building.
12. Re-vegetate and protect exposed soils by October 15. Use appropriate grass/legume seed mixes and/or straw mulch for temporary cover. Permanent vegetation shall be native drought tolerant plants.
13. Bare ground areas shall be seeded for grass and clean straw mulch shall be applied to all bare soils to a thickness of at least 2 inches during and after the construction at an application rate of 2 tons per acre or one 74 pound bale per 800 square feet. The mulch should be "punched in" (e.g. shovel/spade, roller, crimper ) or otherwise anchored to the soil (e.g. plastic netting; especially on slopes greater than 20 percent).
14. Recommended seed mix as follows: (per 1,000 square feet)  
1/3 Pounds per acre: Blue Wild Rye  
1/10 Pounds per acre: Zorro Fescue  
1/8 Pounds per acre: Red Creeping Fescue  
To assure establishment of erosion control seeding, fertilizing and watering schedules should be maintained.
15. The sites existing vegetation of mature oak trees, wild flowers and native and non native grasses shall be maintained outside of all areas shown on the Grading Plan to be the "Extent of Grading and Site Disturbance".



1 MOE STRIP WITH DRAIN  
2 DRYWELL  
3 TREE PROTECTION  
4 CONCRETE WASTE MANAGEMENT  
5 STOCKPILE  
6 CONCRETE WASHOUT MANAGEMENT  
7 STRAW WATTLE INSTALLATION  
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A New Residence for:  
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